

Appl. No. 10/713,636
Atty. Docket No. CM2567C
Amdt. dated 05-Apr-2006
Reply to Office Action of 05-Jan-2006
Customer No. 27752

REMARKS

Amendments to the Claims

Claims 1-3, 5-8, and 10-15 are pending in the present application. Claim 4 has been currently canceled. Claim 9 has been previously canceled. No additional claims fee is believed to be due.

Claim 1 has been amended as shown above to recite that, in the terminal aminofunctional polysiloxane as claimed, "x is from 70 to 150". Support for this amendment can be found in original claims 1 and 4 as well as at page 4, lines 19-20 of the specification.

Claim 3 has been amended as shown above to be in accord with the current amendment to claim 1. Support for this amendment can be found in original claims 1, 3, and 4 as well as at page 4, lines 19-20 of the specification.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

Rejections Under 35 U.S.C. § 103(a) Over U.S. Patent No. 6,143,286 to Bhambhani et al. in view of U.S. Patent No. 4,559,227 to Chandra et al.

Claims 1-8 and 10-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of U.S. Patent No. 6,143,286 to Bhambhani et al. ("Bhambhani") in view of U.S. Patent No. 4,559,227 to Chandra et al. ("Chandra"). The Examiner asserts that Bhambhani teaches a method of coloring as well as conditioning hair using hair coloring and hair conditioning agents in compositions which also contain surfactants and various conditioning agents. The Examiner acknowledges that Bhambhani does not teach the terminal aminofunctional polysiloxane conditioning agent as claimed by Applicants.

The Examiner further asserts, however, that Chandra teaches a conditioning shampoo containing surfactant and an aminofunctional polysiloxane which, when z is 1 and y is 0 in the formula of Chandra, is a terminal aminofunctional polysiloxane as claimed by Applicants. Thus, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to prepare conditioning compositions of Bhambhani which also contain the specific conditioning agent of Chandra to achieve Applicants' claimed

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hair care composition. Applicants respectfully traverse the present rejection based on the following comments.

The combination of Bhambhani and Chandra does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness. See MPEP 2143.03. As currently amended, Applicants' claim 1 is directed to a hair care composition comprising one or more surfactants and a terminal aminofunctional polysiloxane according to the formula, $R_{3-y}Q_ySiO[A]_xSiQ_zR_{3-z}$, wherein, *inter alia*, A, R, and Q are defined as claimed, and wherein *x* is from 70 to 150, *y* is from 0 to 3, and *z* is from 1 to 3. Applicants have found that hair care compositions comprising an aminofunctional group at the terminal position of the polysiloxane chain provide improved conditioning performance, especially with respect to improved wet conditioning with clean and not sticky feel, when compared to compositions containing equivalent polysiloxanes having an aminofunctional group in the graft position.

In contrast, while Bhambhani discloses hair conditioner compositions which comprise cationic conditioning agent, fatty alcohol, nonionic surfactant, and a particular polysiloxane polymer, the polysiloxane of Bhambhani does not contain an aminofunctional group at the terminal position. Instead, the polysiloxane of Bhambhani has siloxy endcap units. Indeed, the Examiner acknowledges that Bhambhani does not teach a terminal aminofunctional polysiloxane as claimed by Applicants.

Regarding Chandra, a conditioning shampoo composition is disclosed. Although the conditioning shampoo composition of Chandra does contain an aminofunctional polysiloxane polymer along with various surfactants, Chandra does not teach or suggest with sufficient specificity a polysiloxane having an aminofunctional group in the *terminal* position and which has an average polysiloxane chain length (*i.e.*, "*x*" in Applicants' claims) *from 70 to 150*. Chandra does broadly disclose that in the general formula of the polysiloxane of Chandra that *z* may be 1. However, Chandra also discloses that when *z* is 1 then *y* has an average value of 0 to 100 and *x* has an average value of 25 to 100. See Chandra at column 5, lines 54-57, and at column 6, lines 45-51. Chandra further teaches that polysiloxanes having a value of *x+y* within the range of 50 to 500 is preferred. See Chandra at column 6, lines 51-56. Thus, a relatively broad range for the average polysiloxane chain length is disclosed as being suitable for delivering desirable properties to hair.

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Additionally, while Chandra generally teaches that z may be 1 in the general formula of the polysiloxane of Chandra, Chandra also implicitly teaches against selecting a polysiloxane in which z is 1. Specifically, Chandra discloses that “[i]t is preferred for maximum stability that the siloxane polymers be terminated by *tri*organosilyl groups” (emphasis added). See Chandra at column 5, lines 20-22. If the siloxane polymers are terminated with “tri”-organosilyl groups, they cannot have an aminofunctional group at the terminal position. Moreover, Chandra fails to disclose any example polysiloxanes which have an aminofunctional group at the terminal position. Instead, each and every example polysiloxane of Chandra has an aminofunctional group at the graft position. See Examples 1 to 3 and 7 of Chandra at column 12, line 56 to column 16, line 35.

Therefore, Chandra fails to teach or suggest with sufficient specificity a polysiloxane having an aminofunctional group in the terminal position and which has an average polysiloxane chain length from 70 to 150, as currently claimed by Applicants.

Consequently, the combination of Bhambhani and Chandra fails to teach or suggest all of Applicants’ claim limitations and, therefore, does not establish a *prima facie* case of obviousness.

Alternatively, Applicants’ claims are not obvious in view of the combination of Bhambhani and Chandra because the compositions of the present invention, which contain *terminal* aminofunctional polysiloxanes having an average polysiloxane chain length from 70 to 150, possess superior and unexpected properties versus compositions which contain *graft* aminofunctional polysiloxanes, such as those exemplified in Chandra. Moreover, Applicants’ compositions, as currently claimed, even possesses superior and unexpected results versus compositions which contain terminal aminofunctional polysiloxanes having average polysiloxane chain lengths below or above Applicants’ claimed range.

Although arguments of counsel cannot take the place of factually supported objective evidence, rebuttal evidence can be presented in the specification. See *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995). “Consistent with the rule that all evidence of nonobviousness must be considered when assessing patentability, the PTO must consider comparative data in the specification in determining whether the claimed invention provides unexpected results.” *In re Soni*, 54 F.3d at 750.

Appl. No. 10/713,636
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Applicants have provided comparative examples in the specification of the present application at pages 27-28. Specifically, Examples 1 and 4, which are representative of the present invention as currently claimed, are hair dye compositions comprising a terminal aminofunctional polysiloxane of the structure $M'D_{102}M'$, wherein M' represents aminopropyldimethylsilyl and D represents dimethylsiloxane having an average polysiloxane chain length of 102.

First, the dry and wet hair conditioning assessment is contrasted for Example 1 and Reference 1 at the bottom of page 27 of the specification. Reference 1 is a hair dye composition which is identical to Example 1 except that Reference 1 contains a graft aminofunctional polysiloxane. Generally, the conditioning assessment for Example 1 is better than that for Reference 1. Most notably, the clean feel "wet not sticky" performance under the wet hair conditioning assessment for Example 1 is rated at 73, whereas, Reference 1 is rated at 56. Thus, the hair conditioning profile of Example 1, which is a composition containing a terminal aminofunctional polysiloxane, is superior to that of Reference 1, which is a composition containing a graft aminofunctional polysiloxane.

Next, the wet conditioning assessment is contrasted for Example 4 and Examples 2-3 and 5-6 at page 28, line 6 of the specification. Examples 2-3 and 5-6 are compositions are described at page 27, line 11 of the specification. These example compositions are identical to Example 1, except that each composition contains a terminal aminofunctional polysiloxane having an average polysiloxane chain length which is different from each other example. Specifically, in the general formula of $M'D_xM'$, wherein M' and D are as described above for Examples 1 and 4, x is 14 for Example 2, x is 43 for Example 3, x is 165 for Example 5, and x is 220 for Example 6. As described above, x is 102 for Example 4, which is representative of the present invention as currently claimed. The chart at page 28, line 6 of the specification demonstrates the superior conditioning efficiency of Example 4 versus all of the other Examples.

Applicants have demonstrated that compositions containing terminal aminofunctional polysiloxanes having an average polysiloxane chain length as currently claimed possess superior and unexpected properties when compared to compositions containing graft aminofunctional polysiloxanes and even when compared to terminal aminofunctional polysiloxanes having an average polysiloxane chain length outside of

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Applicants' claimed range. Accordingly, Applicants' claims are not obvious in view of the combination of Bhambhani and Chandra.

The combination of Bhambhani and Chandra does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness. Alternatively, Applicants' claims are not obvious in view of the combination of Bhambhani and Chandra because the compositions of the present invention possess superior and unexpected properties. Therefore, Applicants' claims 1-3, 5-8, and 10-15 are novel and unobvious over the combination of Bhambhani and Chandra.

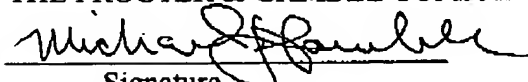
CONCLUSION

In light of the amendments and remarks presented herein, it is requested that the Examiner reconsider and withdraw the present rejections. Early and favorable action in the case is respectfully requested.

Applicants have made an earnest effort to place their application in proper form and to distinguish the invention as now claimed from the applied references. In view of the foregoing, Applicants respectfully request reconsideration of this application, entry of the amendments presented herein, and allowance of Claims 1-3, 5-8, and 10-15.

Respectfully submitted,

THE PROCTER & GAMBLE COMPANY

By 
Signature

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